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1 [Adaptive distributed data management with weak consistent replicated data](#)



Richard Lenz

February 1996 **Proceedings of the 1996 ACM symposium on Applied Computing**

Publisher: ACM Press

Full text available: [pdf\(1.07 MB\)](#)Additional Information: [full citation](#), [references](#), [index terms](#)

Keywords: coherency control, consistency island, distributed data management, need-to-know principle, weak consistency replication

2 [Compensation-based on-line query processing](#)



V. Srinivasan, Michael J. Carey

June 1992 **ACM SIGMOD Record , Proceedings of the 1992 ACM SIGMOD international conference on Management of data SIGMOD '92**, Volume 21 Issue 2

Publisher: ACM Press

Full text available: [pdf\(1.32 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

It is well known that using conventional concurrency control techniques for obtaining serializable answers to long-running queries leads to an unacceptable drop in system performance. As a result, most current DBMSs execute such queries under a reduced degree of consistency, thus providing non-serializable answers. In this paper, we present a new and highly concurrent approach for processing large decision support queries in relational databases. In this new approach, called compensation-ba ...

3 [Data replicas in distributed information services](#)



H. M. Gladney

March 1989 **ACM Transactions on Database Systems (TODS)**, Volume 14 Issue 1

Publisher: ACM Press

Full text available: [pdf\(1.94 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

In an information distribution network in which records are repeatedly read, it is cost-effective to keep read-only copies in work locations. This paper presents a method of updating replicas that need not be immediately synchronized with the source data or with each other. The method allows an arbitrary mapping from source records to replica records. It is fail-safe, maximizes workstation autonomy, and is well suited to a network with slow, unreliable, and/or expensive communications links ...

4 [Accurate data redistribution cost estimation in software distributed shared memory](#)



systems

Donald G. Morris, David K. Lowenthal

June 2001

ACM SIGPLAN Notices , Proceedings of the eighth ACM SIGPLAN symposium on Principles and practices of parallel programming PPOPP '01, Volume 36 Issue 7**Publisher:** ACM Press

Full text available: pdf(270.58 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Distributing data is one of the key problems in implementing efficient distributed-memory parallel programs. The problem becomes more difficult in programs where data redistribution between computational phases is considered. The global data distribution problem is to find the optimal distribution in multi-phase parallel programs. Solving this problem requires accurate knowledge of data redistribution cost. We are investigating this problem in the context of a sof ...

5 Recovery Techniques for Database Systems

Joost S. M. Verhofstad

June 1978 **ACM Computing Surveys (CSUR)**, Volume 10 Issue 2**Publisher:** ACM Press

Full text available: pdf(2.32 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)6 Equal rights for functional objects or, the more things change, the more they are the same

Henry G. Baker

October 1993 **ACM SIGPLAN OOPS Messenger**, Volume 4 Issue 4**Publisher:** ACM Press

Full text available: pdf(2.61 MB)

Additional Information: [full citation](#), [abstract](#), [index terms](#)

We argue that intensional *object identity* in object-oriented programming languages and databases is best defined operationally by side-effect semantics. A corollary is that "functional" objects have extensional semantics. This model of object identity, which is analogous to the normal forms of relational algebra, provides cleaner semantics for the value-transmission operations and built-in primitive equality predicate of a programming language, and eliminates the confusion surrounding "ca ...

7 Simplifying distributed database systems design by using a broadcast network

Jo-Mei Chang

June 1984 **ACM SIGMOD Record , Proceedings of the 1984 ACM SIGMOD international conference on Management of data SIGMOD '84**, Volume 14 Issue 2**Publisher:** ACM Press

Full text available: pdf(1.36 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Atomic broadcast and failure detection are powerful primitives for distributed database systems. In the distributed database system LAMBDA, they are provided as network primitives. In this paper, we show how atomic broadcast and failure detection simplify transaction commitment, concurrency control, and crash recovery. Specifically, we give a simple *two-phase non-blocking* commit protocol, whereas three phases are required in a point-to-point network. We also give a simplified read-one/write-a ...

8 Engineering and scientific applications: On extending the functions of a relational database system

Roger L. Haskin, Raymond A. Lorie

June 1982 **Proceedings of the 1982 ACM SIGMOD international conference on Management of data SIGMOD '82****Publisher:** ACM Press

Full text available: pdf(683.49 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Relational database systems are attracting great interest from potential users outside the

traditional areas in which such systems have been employed. Features of modern relational systems such as powerful query facilities, data and device independence, concurrency control, and recovery are useful in applications such as engineering design, office automation, and graphics. However, such applications place demands on the system that it must be extended to handle. This paper identifies three of th ...

9 An efficient synchronization mechanism for mirrored game architectures



Eric Cronin, Burton Filstrup, Anthony R. Kurc, Sugih Jamin

April 2002 **Proceedings of the 1st workshop on Network and system support for games NetGames '02**

Publisher: ACM Press

Full text available: pdf(260.71 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Existing online multiplayer games typically use a client-server model, which introduces a single bottleneck and point of failure to the game. Distributed multiplayer games remove the bottleneck, but require special synchronization mechanisms to provide a consistent game for all players. Current synchronization methods have been borrowed from distributed military simulations and are not optimized for the requirements of fast-paced multiplayer games. In this paper we present a new synchronization ...

Keywords: consistency, game platforms, system architectures

10 Vector Pascal an array language for multimedia code



Paul Cockshott

June 2002 **ACM SIGAPL APL Quote Quad , Proceedings of the 2002 conference on APL: array processing languages: lore, problems, and applications APL '02**, Volume 32 Issue 4

Publisher: ACM Press

Full text available: pdf(68.39 KB) Additional Information: [full citation](#), [references](#)

11 The VMP multiprocessor: initial experience, refinements, and performance evaluation



D. R. Cheriton, A. Gupta, P. D. Boyle, H. A. Goosen

May 1988 **ACM SIGARCH Computer Architecture News , Proceedings of the 15th Annual International Symposium on Computer architecture ISCA '88**, Volume 16 Issue 2

Publisher: IEEE Computer Society Press, ACM Press

Full text available: pdf(1.73 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

VMP is an experimental multiprocessor being developed at Stanford University, suitable for high-performance workstations and server machines. Its primary novelty lies in the use of software management of the per-processor caches and the design decisions in the cache and bus that make this approach feasible. The design and some uniprocessor trace-driven simulations indicating its performance have been reported previously. In this paper, we present our initial experience with the V ...

12 EMERALDS: a small-memory real-time microkernel



Khawar M. Zuberi, Padmanabhan Pillai, Kang G. Shin

December 1999 **ACM SIGOPS Operating Systems Review , Proceedings of the seventeenth ACM symposium on Operating systems principles SOSP '99**, Volume 33 Issue 5

Publisher: ACM Press

Full text available: pdf(1.59 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

EMERALDS (Extensible Microkernel for Embedded, ReAL-time, Distributed Systems) is a real-time microkernel designed for small-memory embedded applications. These applications must run on slow (15-25MHz) processors with just 32-128 kbytes of memory,

either to keep production costs down in mass-produced systems or to keep weight and power consumption low. To be feasible for such applications, the OS must not only be small in size (less than 20 kbytes), but also have low-overhead kernel services. Un ...

13 Scale and performance in a distributed file system



J. Howard, M. Kazar, S. Menees, D. Nichols, M. Satyanarayanan, Robert N. Sidebotham, M. West

November 1987 **ACM SIGOPS Operating Systems Review , Proceedings of the eleventh ACM Symposium on Operating systems principles SOSP '87**, Volume 21
Issue 5

Publisher: ACM Press

Full text available: [pdf\(240.41 KB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

Andrew is a distributed computing environment being developed in a joint project by Carnegie Mellon University and IBM. One of the major components of Andrew is a distributed file system which constitutes underlying mechanism for sharing information. The goals of the Andrew file system are to support growth up to at least 7000 workstations (one for each student, faculty member, and staff at Carnegie Mellon) while providing users, application programs, and system administrators with the amen ...

14 Development of an object-oriented DBMS



David Maier, Jacob Stein, Allen Otis, Alan Purdy

June 1986 **ACM SIGPLAN Notices , Conference proceedings on Object-oriented programming systems, languages and applications OOPSLA '86**, Volume 21
Issue 11

Publisher: ACM Press

Full text available: [pdf\(1.12 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We describe the results of developing the GemStone object-oriented database server, which supports a model of objects similar to that of Smalltalk-80. We begin with a summary of the goals and requirements for the system: an extensible data model that captures behavioral semantics, no artificial bounds on the number or size of database objects, database amenities (concurrency, transactions, recovery, associative access, authorization) and an interactive development environment. Object-orient ...

15 Understanding application performance on shared virtual memory systems



Liviu Iftode, Jaswinder Pal Singh, Kai Li

May 1996 **ACM SIGARCH Computer Architecture News , Proceedings of the 23rd annual international symposium on Computer architecture ISCA '96**, Volume 24
Issue 2

Publisher: ACM Press

Full text available: [pdf\(1.59 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Many researchers have proposed interesting protocols for shared virtual memory (SVM) systems, and demonstrated performance improvements on parallel programs. However, there is still no clear understanding of the performance potential of SVM systems for different classes of applications. This paper begins to fill this gap, by studying the performance of a range of applications in detail and understanding it in light of application characteristics. We first develop a brief classification of the inh ...

16 Processing read-only transactions in hybrid data delivery environments with consistency and currency guarantees



André Seifert, Marc H. Scholl

August 2003 **Mobile Networks and Applications**, Volume 8 Issue 4

Publisher: Kluwer Academic Publishers

Full text available: [pdf\(285.73 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Different isolation levels are required to ensure various degrees of data consistency and currency to read-only transactions. Current definitions of isolation levels such as Conflict Serializability, Update Serializability or External Consistency/Update Consistency are not

appropriate for processing read-only transactions since they lack any currency guarantees. To resolve this problem, we propose four new isolation levels which incorporate data consistency and currency guarantees. Further, we p ...

Keywords: broadcasting, data consistency, data currency, read-only transactions, unicasting

17 Implementation and evaluation of a QoS-capable cluster-based IP router

Prashant Pradhan, Tzi-cker Chiueh

November 2002 **Proceedings of the 2002 ACM/IEEE conference on Supercomputing**

Publisher: IEEE Computer Society Press

Full text available:  pdf(215.68 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

A major challenge in Internet edge router design is to support both high packet forwarding performance and versatile and efficient packet processing capabilities. The thesis of this research project is that a cluster of PCs connected by a high speed system area network provides an effective hardware platform for building routers to be used at the edges of the Internet. This paper describes a scalable and extensible edge router architecture called *Panama*, which supports a novel aggregate r ...


18 Using histories to implement atomic objects



Tony P. Ng

November 1989 **ACM Transactions on Computer Systems (TOCS)**, Volume 7 Issue 4

Publisher: ACM Press

Full text available:  pdf(2.74 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

In this paper we describe an approach to implementing atomicity. Atomicity requires that computations appear to be all-or-nothing and executed in a serialization order. The approach we describe has three characteristics. First, it utilizes the semantics of an application to improve concurrency. Second, it reduces the complexity of application-dependent synchronization code by analyzing the process of writing it. Third, our approach hides the protocol used to arrive at a ser ...

19 Groupware infrastructure: Transparent sharing and interoperation of heterogeneous single-user applications



Du Li, Rui Li

November 2002 **Proceedings of the 2002 ACM conference on Computer supported cooperative work**

Publisher: ACM Press

Full text available:  pdf(376.29 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Multi-user applications generally lag behind in features or compatibility with single-user applications. As a result, users are often not motivated to abandon their favorite single-user applications for groupware features that are less frequently used. A well-accepted approach, *collaboration transparency*, is able to convert off-the-shelf single-user applications into groupware without modifying the source code. However, existing systems have been largely striving to develop generic applic ...

Keywords: application sharing, collaboration transparency, group editing, heterogeneity, interoperation

20 Dynamic response systems: Triggered message sequence charts



Bikram Sengupta, Rance Cleaveland

November 2002 **Proceedings of the 10th ACM SIGSOFT symposium on Foundations of software engineering**

Publisher: ACM Press

Full text available:  pdf(218.21 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We propose an extension to Message Sequence Charts called Triggered Message Sequence Charts (TMSCs) that are intended to capture system specifications involving nondeterminism in the form of conditional scenarios. The visual syntax of TMSCs closely resembles that of MSCs; the semantics allows us to translate a TMSC specification into a framework that supports a notion of refinement based on Denicola's and Hennessy's must preorder. A simple but non-trivial example illustrates the utility of our e ...

Keywords: message sequence charts, refinement orderings, scenario-based requirements

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21 [Session 10: dynamic response systems: Triggered message sequence charts](#)



Bikram Sengupta, Rance Cleaveland

November 2002 **ACM SIGSOFT Software Engineering Notes**, Volume 27 Issue 6

Publisher: ACM Press

Full text available: [pdf\(926.29 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We propose an extension to Message Sequence Charts called *Triggered Message Sequence Charts* (TMSCs) that are intended to capture system specifications involving nondeterminism in the form of *conditional scenarios*. The visual syntax of TMSCs closely resembles that of MSCs; the semantics allows us to translate a TMSC specification into a framework that supports a notion of refinement based on Denicola's and Hennessy's must preorder. A simple but non-trivial example illustrates the ut ...

Keywords: message sequence charts, refinement orderings, scenario-based requirements

22 [Technical summary of the second IEEE workshop on workstation operating systems](#)



Luis-Felipe Cabrera

July 1990 **ACM SIGOPS Operating Systems Review**, Volume 24 Issue 3

Publisher: ACM Press

Full text available: [pdf\(1.09 MB\)](#) Additional Information: [full citation](#), [index terms](#)

23 [Collaborative virtual environments](#)



Steve Benford, Chris Greenhalgh, Tom Rodden, James Pycock

July 2001 **Communications of the ACM**, Volume 44 Issue 7

Publisher: ACM Press

Full text available: [pdf\(300.84 KB\)](#) [html\(33.77 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

24 [Updating a database in an unsafe environment](#)



Anthony I. Hinxman

June 1984 **Communications of the ACM**, Volume 27 Issue 6

Publisher: ACM Press

Full text available: [pdf\(293.98 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Normally, when an application makes use of a database, considerable resources are invested in maintaining the integrity of that database. However, in situations where use of

a database may be desirable even though the normal level of resources is unavailable, a simple technique using a partitioned data file protects the database if immediate transaction recording is not essential.

Keywords: database, integrity, recovery, unsafe environment

25 The Recovery Manager of the System R Database Manager



Jim Gray, Paul McJones, Mike Blasgen, Bruce Lindsay, Raymond Lorie, Tom Price, Franco Putzolu, Irving Traiger

June 1981 **ACM Computing Surveys (CSUR)**, Volume 13 Issue 2

Publisher: ACM Press

Full text available: pdf(1.75 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

26 Concurrency Control in Distributed Database Systems



Philip A. Bernstein, Nathan Goodman

June 1981 **ACM Computing Surveys (CSUR)**, Volume 13 Issue 2

Publisher: ACM Press

Full text available: pdf(3.24 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

27 Analysis of Ada for a crucial distributed application



John C. Knight, Marc E. Rouleau

March 1987 **Proceedings of the Joint Ada conference fifth national conference on Ada technology and fourth Washington Ada Symposium**

Publisher: George Washington University

Full text available: pdf(892.35 KB) Additional Information: [full citation](#), [references](#), [index terms](#)

28 A workflow data distribution strategy for scalable workflow management systems



Hans Schuster, Petra Heint

April 1997 **Proceedings of the 1997 ACM symposium on Applied computing**

Publisher: ACM Press

Full text available: pdf(363.12 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: data distribution, scalability, workflow

29 System R: relational approach to database management



M. M. Astrahan, M. W. Blasgen, D. D. Chamberlin, K. P. Eswaran, J. N. Gray, P. P. Griffiths, W. F. King, R. A. Lorie, P. R. McJones, J. W. Mehl, G. R. Putzolu, I. L. Traiger, B. W. Wade, V. Watson

June 1976 **ACM Transactions on Database Systems (TODS)**, Volume 1 Issue 2

Publisher: ACM Press

Full text available: pdf(3.18 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

System R is a database management system which provides a high level relational data interface. The systems provides a high level of data independence by isolating the end user as much as possible from underlying storage structures. The system permits definition of a variety of relational views on common underlying data. Data control features are provided, including authorization, integrity assertions, triggered transactions, a logging and recovery subsystem, and facilities for maintaining ...

Keywords: authorization, data structures, database, index structures, locking, nonprocedural language, recovery, relational model

30 Concurrency control in a system for distributed databases (SDD-1)



Philip A. Bernstein, David W. Shipman, James B. Rothnie
March 1980 **ACM Transactions on Database Systems (TODS)**, Volume 5 Issue 1

Publisher: ACM Press

Full text available: pdf(2.83 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper presents the concurrency control strategy of SDD-1. SDD-1, a System for Distributed Databases, is a prototype distributed database system being developed by Computer Corporation of America. In SDD-1, portions of data distributed throughout a network may be replicated at multiple sites. The SDD-1 concurrency control guarantees database consistency in the face of such distribution and replication. This paper is one of a series of companion papers on SDD-1 [4, 10, 12, 21] ...

Keywords: concurrency control, conflict graph, distributed database system, serializability, synchronization, timestamps

31 Introduction to a system for distributed databases (SDD-1)



J. B. Rothnie, P. A. Bernstein, S. Fox, N. Goodman, M. Hammer, T. A. Landers, C. Reeve, D. W. Shipman, E. Wong
March 1980 **ACM Transactions on Database Systems (TODS)**, Volume 5 Issue 1

Publisher: ACM Press

Full text available: pdf(1.23 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The declining cost of computer hardware and the increasing data processing needs of geographically dispersed organizations have led to substantial interest in distributed data management. SDD-1 is a distributed database management system currently being developed by Computer Corporation of America. Users interact with SDD-1 precisely as if it were a nondistributed database system because SDD-1 handles all issues arising from the distribution of data. These issues include distributed concurr ...

Keywords: concurrency control, database reliability, distributed database system, query processing, relational data model

32 Accelerating telnet performance in wireless networks



Barron Housel, Ian Shields
August 1999 **Proceedings of the 1st ACM international workshop on Data engineering for wireless and mobile access**

Publisher: ACM Press

Full text available: pdf(933.49 KB)

Additional Information: [full citation](#), [references](#), [index terms](#)

Keywords: caching, compression, data reduction, emulation, mobile, sessions, telnet, wireless

33 BOS is boss: a case for bulk-synchronous object systems



Mark W. Goudreau, Kevin Lang, Girija Narlikar, Satish B. Rao
June 1999 **Proceedings of the eleventh annual ACM symposium on Parallel algorithms and architectures**

Publisher: ACM Press

Full text available: pdf(1.42 MB)

Additional Information: [full citation](#), [references](#), [index terms](#)

34 The design and performance of a conflict-avoiding cache

Nigel Topham, Antonio González, José González

December 1997 **Proceedings of the 30th annual ACM/IEEE international symposium on Microarchitecture****Publisher:** IEEE Computer SocietyFull text available:  pdf(1.21 MB)  Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)
[Publisher Site](#)

High performance architectures depend heavily on efficient multi-level memory hierarchies to minimize the cost of accessing data. This dependence will increase with the expected increases in relative distance to main memory. There have been a number of published proposals for cache conflict-avoidance schemes. We investigate the design and performance of conflict-avoiding cache architectures based on polynomial modulus functions, which earlier research has shown to be highly effective at reducing ...

Keywords: cache architecture design, cache storage, conflict miss ratios, conflict-avoiding cache performance, data access cost minimization, high performance architectures, main memory, multi-level memory hierarchies, polynomial modulus functions

35 Transactional client-server cache consistency: alternatives and performance

Michael J. Franklin, Michael J. Carey, Miron Livny

September 1997 **ACM Transactions on Database Systems (TODS)**, Volume 22 Issue 3**Publisher:** ACM PressFull text available:  pdf(452.41 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Client-server database systems based on a data shipping model can exploit client memory resources by caching copies of data items across transaction boundaries. Caching reduces the need to obtain data from servers or other sites on the network. In order to ensure that such caching does not result in the violation of transaction semantics, a transactional cache consistency maintenance algorithm is required. Many such algorithms have been proposed in the literature and, as all provide the sam ...

36 Community Place: architecture and performance

Rodger Lea, Yasuaki Honda, Kouichi Matsuda, Satoru Matsuda

February 1997 **Proceedings of the second symposium on Virtual reality modeling language****Publisher:** ACM PressFull text available:  pdf(1.32 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)37 HODFA: an architectural framework for homogenizing heterogeneous legacy databases

Kamalakar Karlapalem, Qing Li, Chung-Dak Shum

March 1995 **ACM SIGMOD Record**, Volume 24 Issue 1**Publisher:** ACM PressFull text available:  pdf(653.76 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

One of the main difficulties in supporting global applications over a number of localized databases and migrating legacy information systems to modern computing environment is to cope with the heterogeneities of these systems. In this paper, we present a *novel flexible architecture* (called HODFA) to dynamically connect such localized heterogeneous databases in forming a *homogenized federated database system* and to support the process of transforming a collection of heterogeneous in ...

38 CONS should not CONS its arguments, or, a lazy alloc is a smart alloc

Henry G. Baker

March 1992 **ACM SIGPLAN Notices**, Volume 27 Issue 3**Publisher:** ACM PressFull text available: [pdf\(1.52 MB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Lazy allocation is a model for allocating objects on the execution stack of a high-level language which does not create dangling references. Our model provides safe transportation into the heap for objects that may survive the deallocation of the surrounding stack frame. Space for objects that do not survive the deallocation of the surrounding stack frame is reclaimed without additional effort when the stack is popped. Lazy allocation thus performs a first-level garbage collection, and if ...

39 A virtual memory translation mechanism to support checkpoint and rollback recovery

Nicholas S. Bowen, Dhiraj K. Pradhan

August 1991 **Proceedings of the 1991 ACM/IEEE conference on Supercomputing****Publisher:** ACM PressFull text available: [pdf\(936.90 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

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1 BlueStar: enabling efficient integration between bluetooth WPANs and IEEE 802.11 WLANs

 Carlos De M. Cordeiro, Sachin Abhyankar, Rishi Toshiwal, Dharma P. Agrawal
 August 2004 **Mobile Networks and Applications**, Volume 9 Issue 4

Publisher: Kluwer Academic Publishers

 Full text available: pdf(672.02 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bluetooth is a radio technology for Wireless Personal Area Networking (WPAN) operating in the 2.4 GHz ISM frequency band. So far, there has been little research on how Bluetooth-enabled devices can effectively and efficiently have uninterrupted access to wide area networks (WAN) such as the Internet. We introduce a novel architecture (BlueStar) whereby selected Bluetooth devices, called Bluetooth Wireless Gateways (BWGs), are also IEEE 802.11 enabled so that these BWGs could serve as egress/ingr ...

Keywords: IEEE 802.11, analytical modeling, architecture, bluetooth, carrier sensing, frequency hopping, gateway, interference, protocol stack, simulation

2 Contingency planning and disaster recovery



Ken Fong

 January 1984 **Proceedings of the 1984 annual conference of the ACM on The fifth generation challenge**

Publisher: ACM Press

 Full text available: pdf(54.94 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

The ability to provide uninterruptable access to automated informational resources will be profoundly different in the Fifth Generation. The types of changes that we can expect are already being reflected in the emerging building blocks for the Fifth Generation. As our dependency on the computerized environment, as well as our need for easy access to informational resources increases, there is a corresponding increase in tools and mechanisms designed to allow us to quickly and ea ...

3 Security considerations in system design



James J. Pottmyer, Ken Fong, Stelio Thompson, Ralph Shattuck

 January 1984 **Proceedings of the 1984 annual conference of the ACM on The fifth generation challenge**

Publisher: ACM Press

 Full text available: pdf(44.61 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

This session addresses today's design efforts, seeking to identify security issues for fifth generation computing. Emphasis is placed on disaster recovery, auditing and evaluation of computer systems, and special problems arising from the proliferation of small computers.

K. Fong, whose abstract follows in these Proceedings, describes our changing approach to providing uninterruptable access to automated information resources. These changes can include total redundancy and geogra ...

4 Technical summary of the second IEEE workshop on workstation operating systems



Luis-Felipe Cabrera

July 1990 **ACM SIGOPS Operating Systems Review**, Volume 24 Issue 3

Publisher: ACM Press

Full text available: [pdf\(1.09 MB\)](#) Additional Information: [full citation](#), [index terms](#)

5 Applications: FPGA based RAID 6 hardware accelerator



Michael Gilroy, James Irvine, William Berrie

February 2006 **Proceedings of the international symposium on Field programmable gate arrays FPGA'06**

Publisher: ACM Press

Additional Information: [full citation](#), [abstract](#), [index terms](#)

Hard disk storage capacity has continued to rise whilst at the same time the cost per megabyte continues to fall. This, combined with increased usage of digital storage for documents, photography and video for both home and business use has led to increased need for reliable data storage system. Redundant arrays of inexpensive disks (RAID) have proven to offer the best characteristics for reliable storage. However, to date RAID based systems have been limited by their support for only single dis ...

6 The NYU Ada translator and interpreter



Robert B. K. Dewar, Gerald A. Fisher, Edmond Schonberg, Robert Froehlich, Stephen Bryant, Clinton F. Goss, Michael Burke

November 1980 **ACM SIGPLAN Notices , Proceeding of the ACM-SIGPLAN symposium on Ada programming language SIGPLAN '80**, Volume 15 Issue 11

Publisher: ACM Press

Full text available: [pdf\(733.07 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

The NYU-Ada project is engaged in the design and implementation of a translator- interpreter for the Ada language. The objectives of this project are twofold: a) to provide an executable semantic model for the full Ada language, that can be used for teaching, and serve as a starting point for the design of an efficient Ada compiler; b) to serve as a testing ground for the software methodology that has emerged from our experience with the very-high level language SETL. In accordance with these obj ...

7 Establishing trust in pure ad-hoc networks



Asad Amir Pirzada, Chris McDonald

January 2004 **Proceedings of the 27th conference on Australasian computer science - Volume 26 CRPIT '04**

Publisher: Australian Computer Society, Inc.

Full text available: [pdf\(114.36 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

An ad-hoc network of wireless nodes is a temporarily formed network, created, operated and managed by the nodes themselves. It is also often termed an infrastructure-less, self-organized, or spontaneous network. Nodes assist each other by passing data and control packets from one node to another, often beyond the wireless range of the original sender. The execution and survival of an ad-hoc network is solely dependent upon the cooperative and trusting nature of its nodes. However, this naive depe ...

Keywords: ad-hoc, networks, protocols, security, trust

8 Kerberos assisted Authentication in Mobile Ad-hoc Networks



Asad Amir Pirzada, Chris McDonald

January 2004 **Proceedings of the 27th conference on Australasian computer science - Volume 26 CRPIT '04**

Publisher: Australian Computer Society, Inc.

Full text available:  pdf(94.96 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

An ad-hoc network comprises mobile nodes that cooperate with each other using wireless connections to route both data and control packets within the network. As the low transmission power of each node limits its communication range, the nodes must assist and trust each other in forwarding packets from one node to another. However, this implied trust relationship can be threatened by malicious nodes that may fabricate, modify or disrupt the orderly exchange of packets. Security demands that all p ...

Keywords: ad-hoc, authentication, networks, security

9 Sensitivity of integrated voice and data networks to traffic and design variables



I. Gitman, B. Occhiogrosso, W. Hsieh

November 1979 **Proceedings of the sixth symposium on Data communications**

Publisher: ACM Press

Full text available:  pdf(1.06 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper presents quantitative results of cost/performance studies of circuit-switching, packet-switching, and hybrid (circuit/packet) switching technologies. The results expose the cost difference for alternative realizations and usage of a given network technology.

10 Administration of campus computing labs and faculty desktops



Jonathan E. Geibel

November 1999 **Proceedings of the 27th annual ACM SIGUCCS conference on User services: Mile high expectations**

Publisher: ACM Press

Full text available:  pdf(43.29 KB) Additional Information: [full citation](#), [index terms](#)

Keywords: Macintosh, Novell, Windows NT, ZENWorks, authentication, desktop management, printing, unattended installs


11 Oasis: an architecture for simplified data management and disconnected operation



Maya Rodrig, Anthony LaMarca

March 2005 **Personal and Ubiquitous Computing**, Volume 9 Issue 2

Publisher: Springer-Verlag

Full text available:  pdf(450.62 KB) Additional Information: [full citation](#), [abstract](#)

Oasis is an asymmetric peer-to-peer data management system tailored to the requirements of pervasive computing. Drawing upon applications from the literature, we motivate three high-level requirements: availability, manageability, and programmability. Oasis addresses these requirements by employing a peer-to-peer network of weighted replicas and performing background self-tuning. In this paper, we describe our architecture, our consistency-control mechanism, and an initial implementation. Our pe ...

Results 1 - 11 of 11

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